

REMARKS

In the Office Action, the examiner objected to the drawings as not showing a feature of claim 7. A new figure, Figure 2, is being added by amendment herein, and the support for the figure is noted with the amendment. No new matter is being added and the Specification is being amended to correspond structurally to the addition of Figure 2.

The examiner also rejected claims 1, 2, 3 and 6 were rejected under 35 U.S.C. 102(b) as anticipated by Inukai et al. (US 202/0180300). Claims 4, 5 and 8 were rejected under 35 U.S.C. 103(a) as being obvious over Inukai et al. in view of Sadatoshi (Patent Abstract of Japan 03226447). Finally, claim 7 was rejected under 35 U.S.C. 103(a) as being obvious over Inukai et al. in view of Sadatoshi and in further view of Hideyuki (Patent Abstract of Japan 02114835).

Inukai et al. shows a fuel pump having an electromotive drive with a commutator and carbon brushes. The commutator segments of the commutator have a sliding surface that slides on the respective sliding surface of the carbon brushes. That sliding surface of the commutator is a metal carbon layer fixedly bound with the carbon commutator segments.

An object of Applicant's disclosure of a metal carbon layer is to achieve a commutator with superior resistance to sulfidation. Importantly, there is no indication in Inukai et al. to have commutator segments which are able to clean the sliding surfaces of the carbon brushes from oxide layer formations. To emphasize this distinguishing feature over the prior art, claim 1 is amended herein to more closely track the disclosure found on page 2, lines 22-24. Accordingly, Inukai et al. cannot anticipate independent claim 1, or claims 2, 3 and 6 depending therefrom and having further limitations added thereto.

From Sadatoshi, a fuel pump motor is known having a commutator with a composite galvanization layer. By this layer, the commutator can be protected against degradation due to corrosion or abrasion resulting in considerable improvement in durability. However, for this reason, Sadatoshi does not teach cleaning carbon brushes from oxide layers. To the contrary, it teaches trying to avoid the need for such cleaning. Accordingly, independent claim 1 is patentable and dependent claims 4, 5 and 8 having further limitations added thereto cannot be obvious in light of Inukai et al. in view Sadatoshi.

From Hideyuki, a commutator for a fuel pump is known as being formed of an alumina dispersion-type reinforced copper alloy to effect a reduction of the amount of abrasion of the commutator. Thus, Hideyuki does not teach or suggest cleaning carbon brushes of oxide layers. Accordingly, independent claim 1 is patentable and dependent claim 7 having further limitations added thereto cannot be obvious in light of Inukai et al. in view Sadatoshi and in further view of Hideyuki.

Claim 7 is amended herein to depend from claim 4 which, in turn, depends from claim 1. New claim 9 is similar to claim 7, but depends from claim 5 which, in turn, depends from claim 1. New claim 10 is similar to claim 8 which depends from dependent claim 4, however, new claim 10 depends from dependent claim 5.

Applicant has amended the claims in a manner consistent with the Specification and without adding new matter. It is respectfully submitted that, with this amendment, independent claim 1 and dependent claims 2-10 are distinguishable over the cited prior art and are patentable. Applicant requests consideration and entry of the amendments herein, and withdrawal of the objections and rejections. If there are any remaining issues in this application, Applicant urges the Examiner to contact the undersigned attorney at the number listed below.

Applicant believes that no further fee is due with this response, however, the Commissioner is authorized to charge any fee deficiency due for the filing of this paper to deposit account number 50-2455.

Respectfully submitted,

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